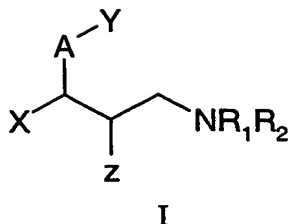


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Claims

1. A compound of formula I:



5 wherein

A is selected from O and S;

X is selected from

- 10 phenyl optionally substituted with up to 5 substituents each independently selected from halo, C₁-C₄ alkyl and C₁-C₄ alkoxy;
 thienyl optionally substituted with up to 3 substituents each independently selected from halo and C₁-C₄ alkyl; and
 C₂-C₈ alkyl, C₂-C₈ alkenyl, C₃-C₈ cycloalkyl and C₄-C₈ cycloalkylalkyl, each of which
 15 may be optionally substituted with up to 3 substituents each independently selected from halo, C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkyl-S(O)_n- where n is 0, 1 or 2, -CF₃, -CN and -CONH₂;

- Y is selected from phenyl, naphthyl, dihydrobenzothienyl, benzothiazolyl,
 20 benzoisothiazolyl, quinolyl, isoquinolyl, naphthyridyl, thienopyridyl, indanyl, 1,3-benzodioxolyl, benzothienyl, indolyl and benzofuranyl, each of which may be optionally substituted with up to 4 or, where possible, up to 5 substituents each independently selected from halo, C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkyl-S(O)_n- where n is 0, 1 or 2, nitro, acetyl, -CF₃, -SCF₃ and cyano; and when Y is indolyl it may be substituted or
 25 further substituted by an N-substituent selected from C₁-C₄ alkyl;

Z is selected from OR₃ or F, wherein R₃ is selected from H, C₁-C₆ alkyl and phenyl C₁-C₆ alkyl;

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R_1 and R_2 are each independently H or C_1 - C_4 alkyl;

or a pharmaceutically acceptable salt thereof

5

with the proviso that when Y is optionally substituted phenyl or optionally substituted 1,3-benzodioxolyl and Z is OR_3 and X is optionally substituted phenyl then A is S.

2. A compound as claimed in claim 1, wherein A is O.

10

3. A compound as claimed in claim 1, wherein A is S.

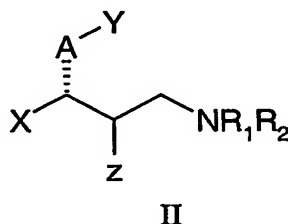
4. A compound as claimed in any one of the preceding claims, wherein one of R_1 and R_2 is H.

15

5. A compounds as claimed in any one of the preceding claims, wherein one of R_1 and R_2 is H and the other is methyl.

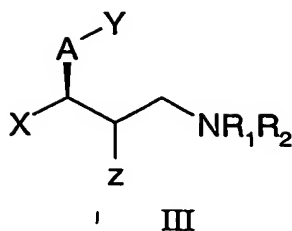
6. A compound as claimed in any one of the preceding claims, wherein the compound possesses the stereochemistry defined in formula II

20

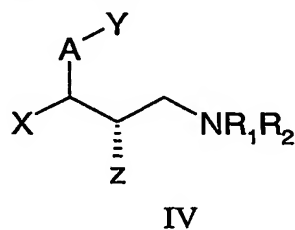


7. A compound as claimed in any one of claims 1 to 5, wherein the compound possesses the stereochemistry defined in formula III

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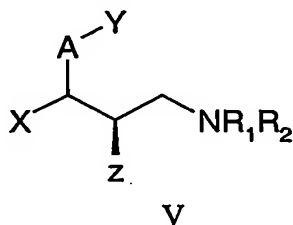


A compound as claimed in any one of claims 1 to 5, wherein the compound possesses the stereochemistry defined in formula IV



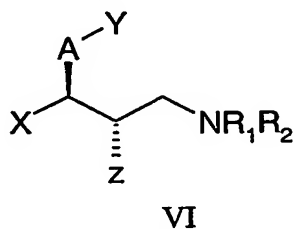
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9. A compound as claimed in any one of claims 1 to 5, wherein the compound possesses the stereochemistry defined in formula V



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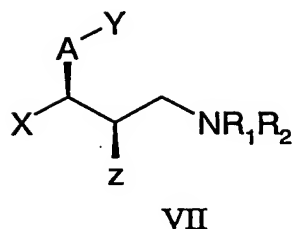
10. A compound as claimed in claim 7 or claim 8, wherein the compound possesses the stereochemistry defined in formula VI



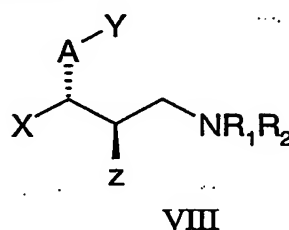
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11. A compound as claimed in claim 7 or claim 9, wherein the compound possesses the stereochemistry defined in formula VII

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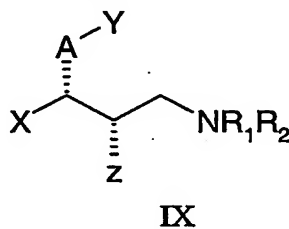


12. A compound as claimed in claim 6 or claim 9, wherein the compound possesses the stereochemistry defined in formula VIII



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13. A compound as claimed in claim 6 or claim 8, wherein the compound possesses the stereochemistry defined in formula IX



10

14. A compound as claimed in any one of the preceding claims wherein Z is F.

15. A compound as claimed in any one of claims 1 to 13 wherein Z is OH.

15 16. A compound as claimed in any one of claims 1 to 13 wherein Z is OMe or OCH₂Ph.

17. A compound as claimed in any one of the preceding claims, wherein
 20 X is unsubstituted phenyl or phenyl which is mono-, di- or tri-substituted with
 substituents independently selected from halo, C₁-C₄ alkyl and C₁-C₄ alkoxy.

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18. A compound as claimed in claim 17, wherein X is unsubstituted phenyl or phenyl which is mono-substituted with fluorine.

19. A compound as claimed in any one of the preceding claims, wherein Y is phenyl optionally substituted with up to 5 substituents each independently selected from halo, C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkyl-S(O)_n- where n is 0, 1 or 2, nitro, acetyl, -CF₃, -SCF₃ and cyano.

20. A compound as claimed in claim 19, wherein Y is unsubstituted phenyl or phenyl which is mono-substituted with chlorine.

21. A compound as claimed in any one of the preceding claims, wherein Y is naphthyl optionally substituted with up to 5 substituents each independently selected from halo, C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkyl-S(O)_n- where n is 0, 1 or 2, nitro, acetyl, -CF₃, -SCF₃ and cyano.

22. A compound as claimed in claim 21, wherein Y is unsubstituted naphthyl or naphthyl which is mono-substituted with fluorine.

23. A compound as claimed in claim 21 or 22, wherein the point of attachment of the optionally substituted naphthyl group to the O or S atom is attachment at the 1 position.

24. A compound as claimed in any one of the claims 1-18, wherein Y is benzofuranyl optionally substituted with up to 5 substituents each independently selected from halo, C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkyl-S(O)_n- where n is 0, 1 or 2, nitro, acetyl, -CF₃, -SCF₃ and cyano.

25. A compound as claimed in claim 24, wherein Y is unsubstituted benzofuranyl or benzofuranyl which is mono-substituted with CH₃.

26. A compound as claimed in any one of the claims 1-18, wherein Y is benzothienyl optionally substituted with up to 5 substituents each independently selected from halo,

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C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkyl-S(O)_n- where n is 0, 1 or 2, nitro, acetyl, -CF₃, -SCF₃ and cyano.

27. A compound as claimed in claim 26, wherein Y is unsubstituted benzothienyl or
5 benzothienyl which is mono-substituted with fluorine.

28. A compound as claimed in any one of the claims 1-18, wherein Y is benzoisothiazolyl optionally substituted with up to 4 substituents each independently selected from halo, C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkyl-S(O)_n- where n is 0, 1 or 2,
10 nitro, acetyl, -CF₃, -SCF₃ and cyano.

29. A compound as claimed in any one of claims 24-28, wherein the point of attachment of the group Y to the O or S atom is attachment at the 7 position.

15 30. A compound as claimed in any one of claims 24-28, wherein the point of attachment of the group Y to the O or S atom is attachment at the 4 position.

31. A pharmaceutical composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, together
20 with a pharmaceutically acceptable diluent or carrier.

32. A compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for use as a pharmaceutical.

25 33. A compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for use as a selective inhibitor of the reuptake of both serotonin and norepinephrine.

30 34. A compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for use in the treatment of a disorder associated with serotonin and norepinephrine dysfunction in mammals.

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35. A compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for use in the treatment of a disorder selected from depression, OCD, anxiety, memory loss, urinary incontinence, conduct disorders, ADHD, obesity, alcoholism, smoking cessation, hot flushes/flushes and pain.

5

36. The use of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for the manufacture of a medicament for selectively inhibiting the reuptake of serotonin and norepinephrine.

10

37. The use of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for the manufacture of a medicament for the treatment of a disorder associated with serotonin and norepinephrine dysfunction in mammals.

15

38. The use of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30, for the manufacture of a medicament for the treatment of a disorder selected from depression, OCD, anxiety, memory loss, urinary incontinence, conduct disorders, ADHD, obesity, alcoholism, smoking cessation, hot flushes/flushes and pain.

20

39. The use as claimed in claim 38, wherein the disorder is selected from depression, urinary incontinence and pain.

25

40. A method for selectively inhibiting the reuptake of serotonin and norepinephrine in mammals, comprising administering to a patient in need thereof an effective amount of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30.

30

41. A method for treating disorders associated with serotonin and norepinephrine dysfunction in mammals, comprising administering to a patient in need thereof an effective amount of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30.

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42. A method for treating a disorder selected from depression, OCD, anxiety, memory loss, urinary incontinence, conduct disorders, ADHD, obesity, alcoholism, smoking cessation, hot flushes/flushes and pain comprising administering to a patient in need
5 thereof an effective amount of a compound of formula I or a pharmaceutically acceptable salt thereof, as defined in any one of claims 1-30.

43. The use as claimed in any one of claims 36-39, wherein the disorder is pain.

10 44. A method as claimed in any one of claims 40-42, wherein the disorder is pain.